

## **REMARKS / ARGUMENTS**

### **I. General Remarks**

Please consider the application in view of the following remarks. Applicants thank the Examiner for his careful consideration of this application, including the references submitted in this application and, pursuant to MANUAL OF PATENT EXAMINING PROCEDURE § 609.02, all references submitted in the patent applications to which this application claims priority under 35 U.S.C. § 120.

Applicants hereby request continued examination of this application, in accordance with 37 C.F.R. § 1.114. Applicants have submitted herewith an information disclosure statement, and respectfully request that the Examiner consider the references listed therein and initial the submitted PTO-1449 form indicating that consideration.

### **II. Disposition of Claims**

Claims 1-13, 15-41 and 63-66 are pending in this application. Claims 14, 42-62, and 67-88 were cancelled in a previous response.

Claims 1-13, 15-41 and 63-66 stand rejected under 35 U.S.C. § 103(a).

### **III. Rejections of Claims**

#### **A. Rejections of Claims 1-9, 11-13, 15-41, 63, 65, and 66**

Claims 1-9, 11-13, 15-41, 63, 65, and 66 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,990,050 to Patel ("*Patel*") in view of a reference entitled "Amphiphilic Copolymers," from *Langmuir* (1998) by P. Perrin ("*Perrin*"). With respect to these rejections, the Final Office Action states:

The 35 U.S.C. 103(a) rejection of claims 1-9, 11-41, 63, 65 and 66 as unpatentable over United States Patent Number (USPN) 5,990,050 to Patel et al., (hereinafter 'Patel') in view of "Amphiphilic Copolymers", *Langmuir* 1998, 14, 5977-79, (hereinafter 'Perrin') has been maintained for reasons previously made of record in item 10 on page 5 of the Office Action mailed April 6, 2007, hereinafter 'OA'.

Applicant's arguments in the response to OA filed October 5, 2007 (hereinafter 'Response') with respect to the 35 U.S.C. 103(a) rejection of claims 1-9, 11-41, 63, 65 and 66 as unpatentable over Patel in view of Perrin have been fully considered but deemed unpersuasive.

In response to Applicant's primary argument concerning Perrin not expressly teaching the emulsion facilitating particle to be "solid",

Perrin teaches the polymeric emulsifier to be a hydrophobically-modified poly(sodium acrylate) having hydrophobic alkyl chains grafted onto a negatively charged backbone having a molecular weight of 50,000 g/mol. It is well known that polysodium acrylate (PSA), and grafted and/or crosslinked polymers thereof, are water-swellaable solid resin materials commonly used as water-absorbents in various applications. (*See, e.g.*, USPN 4,727,097 to Kobayashi et al., col. 2, lines 16-47 disclosing grafted PSA polymers as highly water-absorptive resins; USPN 4,735,987 to Morita et al., col. 1, lines 17-41, teaching polysodium acrylate polymers as advantageous water-absorbent resin polymers; USPN 4,806,578 to Kobayashi et al., col. 2, lines 43 to col. 3, line 14, disclosing PSA and grafted starch-PSA polymers as hydrophilic water-absorptive resin agents; USPN 4,826,680 to Lesniak et al., col. 3, lines 19-52; claims 5, 9, 18 and 22, teaching crosslinked PSA polymers as effective water-insoluble, water-swellaable resin materials; USPN 6,107,358 A to Harada et al., col. 1, lines 23-35, teaching cross-linked PSA as a typical example of a water-absorbent resin; and the Japanese Abstract to JP 360179485 A to Miyayama et al., disclosing a graft of starch with PSA as a high-molecular, water-swellaable material for “waterstopping”) [Examiner notes that these references are cited only as evidence of what is commonly known in the art and not relied upon as grounds for the instant rejection.]

Consequently, because PSA and grafts thereof are known as water-insoluble, water-swellaable absorbent resin materials, they must be solid particles in *at least* the aqueous phase in Patel’s invert emulsion (or in the presently claimed fluid).

In response to Applicant’s arguments that VERSACOAT® and NOVAMUL®, disclosed in Patel as examples of a wetting agent/emulsifier for use in the composition, can also act as surfactants (and not just emulsifying agents), these emulsifiers are examples of a preferred embodiment in Patel. “Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments.” *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill [sic] the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. MPEP 2123.

Thus, the instant claims remain unpatentable over Patel and Perrin.

(Final Office Action at 2-4). Applicants respectfully disagree with these rejections.

To form a basis for a § 103(a) rejection, a combination of prior art references must teach or suggest each element in the claim. MANUAL OF PATENT EXAMINING PROCEDURE

(“MPEP”) § 2142 (2007). The prior art must also suggest the combination of the prior art to produce the claimed invention. *Id.* at § 2143.01. The combination of *Patel* and *Perrin* does not teach or suggest each element of Applicants’ claims, nor does it suggest a combination of *Patel* and *Perrin* that would produce the inventions recited in Applicants’ claims.

First, Applicants respectfully maintain that *Patel* nor *Perrin* teaches the use of solid emulsion facilitating particles, as recited in claims 1, 29, and 63, for the reasons stated in their previous responses. The Final Office Action additionally cites several unrelated references that describe water-swellaable resins comprising poly(sodium acrylate), and asserts that these must be equivalent to the hydrophobically-modified poly(sodium acrylate) described in *Perrin*. However, there is no indication in any of these references that the hydrophobically-modified poly(sodium acrylate) in the compositions described in *Perrin* necessarily exists in a solid form, and thus *Perrin* does not inherently disclose solid emulsion facilitating particles, as Applicants’ claims require.

Moreover, Applicants respectfully maintain that neither *Patel* nor *Perrin* teaches emulsion facilitating particles have a fluid contact angle from about 70° to about 140°. The previous non-final Office Action (dated April 6, 2007) admitted that neither *Patel* nor *Perrin* specifies this element, but simply asserted that the emulsions disclosed in *Patel* are encompassed by Applicants’ claims and thus “must inherently possess the same physical properties, such as contact angle.” (April 6, 2007 Office Action at 7). Applicants respectfully disagree. First, as discussed above, *Patel* does not, either alone or in combination with *Perrin*, disclose an emulsion that comprises solid emulsion facilitating particles (as recited in claims 1, 29, and 63), and thus those emulsions do not necessarily possess the same physical properties as those recited in Applicants’ claims (*i.e.*, a fluid contact angle of from about 70° to about 140°). *See* MPEP at § 2112 (“To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference ....’”). Moreover, even if the emulsions produced by the combination of *Patel* and *Perrin* comprise solid particles—and there is no indication that they do—there is no indication that these emulsions are necessarily associated with a fluid contact angle of from about 70° to about 140°, as recited in Applicants’ claims. *See id.* None of *Patel*, *Perrin*, or any of the other articles cited in the Final Office Action even mention fluid contact angle, much less do they indicate that the hydrophobically-modified poly(sodium acrylate) disclosed in *Perrin* necessarily imparts a fluid

contact angle of from about 70° to about 140° to an emulsion. Indeed, the fluid contact angle of a material may depend various properties of the material (e.g., surface topography), and hydrophobically-modified poly(sodium acrylate) may or may not have the requisite properties to produce the fluid contact angle of from about 70° to about 140°. See, e.g., “Contact Angle and Surface Characteristics,” Fraunhofer IGB, available at <http://www.igb.fraunhofer.de/www/GF/Grenzfl/Mem/gf-physik/en/GFphys-KontWinkel-Obfl.en.html> (2004) (a courtesy copy of this article is included with this response for the Examiner’s convenience). For at least these reasons, the combination of *Patel* and *Perrin* does not inherently disclose or teach this element of Applicants’ claims, and thus cannot obviate those claims.

Finally, Applicants respectfully reiterate that neither *Patel* nor *Perrin* teaches a “surfactant-free” emulsion, as claims 1, 29, and 63 recite, and no permissible combination of *Patel* with *Perrin* can be used to produce a surfactant-free emulsion. The Final Office Action maintains that *Patel* teaches surfactant-free emulsions because the embodiments that comprise surfactants therein are merely “examples of a preferred embodiment,” that “do not constitute a teaching away from a broader disclosure or nonpreferred embodiments.” (Final Office Action at 4). However, the Final Office Action cites no disclosure or embodiment of a surfactant-free emulsion in *Patel*. Rather, each and every emulsion described in *Patel* comprises a surfactant. Even if these examples do not explicitly teach away from excluding surfactants, *Patel* still provides no “broader disclosure or nonpreferred embodiment” of a surfactant-free emulsion. Without such a disclosure, *Patel* cannot obviate claims 1, 29, and 63.

Moreover, as Applicants discussed in their prior response, even if *Patel* alone teaches a “surfactant-free” emulsion as the Final Office Action suggests, the hydrophobically-modified poly(sodium acrylate) from *Perrin* that the Final Office Action combines with *Patel* is itself a polymeric surfactant, as *Perrin* explicitly acknowledges. (See *Perrin* at 5977). To modify that combination to produce a “surfactant-free” emulsion would change the fundamental principle of *Perrin* that a surfactant is used to stabilize the emulsions discussed therein. See MPEP at § 2143.01 (“If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.”) Altering the basic principle of operation described in *Perrin* by making the emulsion “surfactant-free” renders the

proposed combination or alteration unobvious, even without any further “teaching away” in *Patel*. Applicants presented this argument in their previous response, but the Final Office Action provides no response indicating why a modification of *Patel* and *Perrin* to produce a surfactant-free emulsion would nonetheless be obvious. Thus, the combination of *Patel* with a surfactant taught in *Perrin* cannot obviate claims 1, 29, and 63.

Because the combination of *Patel* and *Perrin* does not teach or suggest the inventions recited in claims 1, 29, and 63, and because the combination of *Patel* and *Perrin* would not produce the inventions recited in Applicants’ claims, that combination of references cannot obviate these claims. Moreover, since “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers,” and since claims 2-9, 11-28, 30-41, 65, and 66 depend, either directly or indirectly, from independent claim 1, 29, or 63, these dependent claims are allowable for at least the same reasons. See 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

**B Rejections of Claims 10 and 64**

Claims 10 and 64 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Patel* in view of *Perrin* as discussed above, and further in view of a reference entitled “Crude Oil Emulsions: A State of the Art Review,” SPE 77497 by Sunil Kokal (“*Kokal*”). With respect to these rejections, the Final Office Action states:

The 35 U.S.C. 103(a) rejection of claims 10 and 64 as unpatentable over *Patel* in view of *Perrin* (as applied above to independent claims 1, 29 and 63) and further in view of “Crude Oil Emulsions: A State of the Art Review”, SPE 77497, hereinafter ‘*Kokal*’ has been maintained for reasons previously made of record in item 11 on page 7 of OA.

Applicant’s arguments with respect to these 35 U.S.C. 103(a) rejection of claims 10 and 64 as unpatentable over *Patel* in view of *Perrin*, and further in view of *Kokal*, have been fully considered but deemed unpersuasive.

Applicant did not provide any substantive arguments in Response traversing the instant rejection except to state that the instant claims depend from independent claims that are allegedly patentable over *Patel* and *Perrin*. However, Applicant’s arguments concerning *Patel* and *Perrin* were addressed above and were found unpersuasive.

Thus, the instant claims remain unpatentable over *Patel*, *Perrin* and *Kokal*.

(Final Office Action at 2 & 4-5).

To form a basis for a § 103(a) rejection, a combination of prior art references must teach or suggest each element in the claim. MPEP at § 2142. The prior art must also suggest the combination of the prior art to produce the claimed invention. *Id.* at § 2143.01. However, as discussed in Section III.A. above, the combination of *Patel* and *Perrin* does not teach or suggest each element of claims 1, 29, and 63, nor does it suggest a combination of *Patel* and *Perrin* that would produce the inventions recited in those claims. Since “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers,” and since claims 10 and 64 depend, either directly or indirectly, from independent claim 1 or 63, these dependent claims are allowable for at least the same reasons. *See* 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

#### **IV. No Waiver**

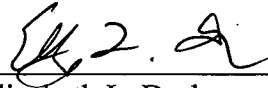
All of Applicants’ arguments and amendments are without prejudice or disclaimer. Other arguments may exist, and Applicants reserve the right to discuss these additional arguments in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner’s additional statements. The remarks provided by Applicants are sufficient to overcome the rejections and objections stated in the Final Office Action.

#### **SUMMARY**

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

The Commissioner is hereby authorized to debit Baker Botts L.L.P.’s Deposit Account No. 02-0383, Order Number 063718.0454, in the amount of \$810.00 for the RCE fee under 37 C.F.R. § 1.117(e). Should the Commissioner deem that any additional fees are due, including any fees for extensions of time, the Commissioner is authorized to debit Baker Botts L.L.P.’s Deposit Account No. 02-0383, Order Number 063718.0454.

Respectfully submitted,



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